

Update on Final Alternatives



Advisory Committee

June 2, 2006

Sacramento, California

Items to be Discussed

- ◆ **Purpose of the Draft PEIR**
- ◆ **Incorporation of other assumptions and features in project-level analyses**
- ◆ **Features, phasing, and costs of Final Alternatives in Draft PEIR**

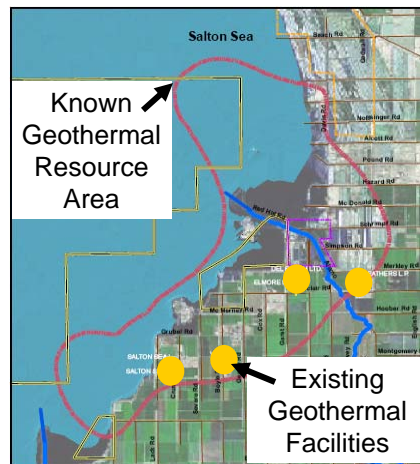
Purpose of the Draft PEIR

◆ A Programmatic EIR:

- Allows for comparison of generalized alternatives with similar assumptions and with flexibility for a range of specific implementation plans to be evaluated in project-level analyses
- Does not address specific locations or final design criteria of facilities
- Allows for the selection of an approach that will be analyzed further in project-level analyses

Assumptions or Features that could be Added in Project-Level Analyses

- ◆ Accommodations for future geothermal development
- ◆ Recreational opportunities
- ◆ Local land use developments to improve economy



Final Range of Alternatives

- ◆ **No Action Alternative**
- ◆ **Alternative 1 - Saline Habitat Complex I**
- ◆ **Alternative 2 - Saline Habitat Complex II**
- ◆ **Alternative 3 - Concentric Rings**
- ◆ **Alternative 4 - Concentric Lakes**
- ◆ **Alternative 5 - North Sea**
- ◆ **Alternative 6 - North Sea Combined**
- ◆ **Alternative 7 - Combined North and South Lakes**
- ◆ **Alternative 8 - South Sea Combined**

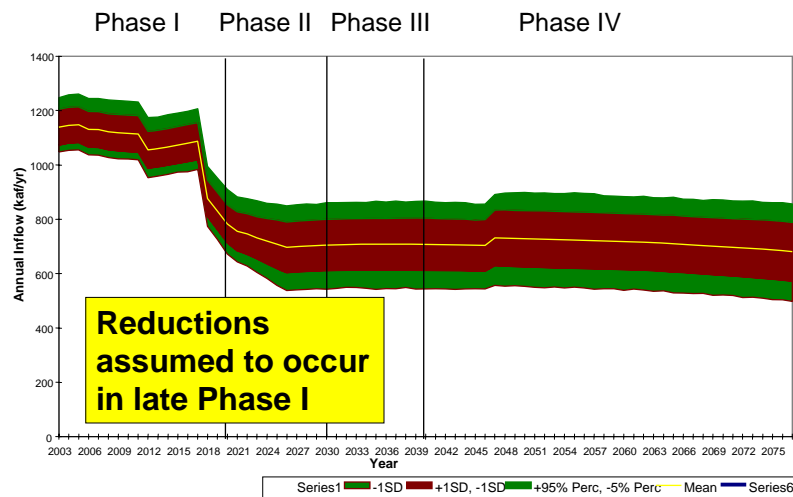
Information Provided for Each Alternative

- ◆ **Basic Assumptions**
- ◆ **Phasing Diagrams**
- ◆ **Capital Costs**
- ◆ **Operations & Maintenance Costs**

Use of Inflow Assumptions for All Alternatives

- ◆ Average annual inflows of 717,000 acre-feet/year from 2018 to 2078
- ◆ Range of possible inflows to identify reliability of operations

Inflow Assumptions as in No Action Alternative-Variability Conditions



Alternative 1: Saline Habitat Complex I

- ◆ **Early Start Program with 2,000 acres of SHC along southern shoreline**
- ◆ **Pupfish Channel in agricultural fields**
- ◆ **Saltwater is pumped through temporary methods to start Saline Habitat Complex**
- ◆ **Control of inflows/outflows used to stabilize elevation and salinity**
- ◆ **This alternative provides "lower bookend" for Saline Habitat Complex alternatives**

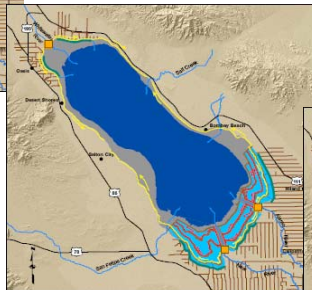
Phase I - 2020



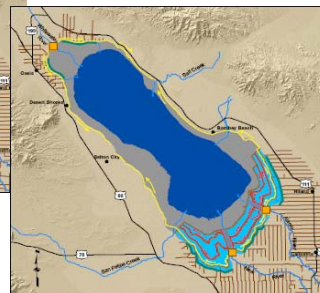
Brine Sink Salinity
= 78,000 mg/L

Alternative 1: Saline Habitat Complex I

Phase II - 2030



Phase IV - 2078



Construction = \$2.3 B

O&M = \$90 M/year Phase IV

Alternative 2: Saline Habitat Complex II

- ◆ Early Start Program with 2,000 acres of SHC along southern shoreline
- ◆ Pupfish connectivity in Shoreline Waterway
- ◆ Saltwater pumped from Brine Sink and last SHC cell to maintain salinity
- ◆ Control of inflows/outflows/saltwater used to stabilize elevation and salinity
- ◆ This alternative provides "upper bookend" for Saline Habitat Complex alternatives

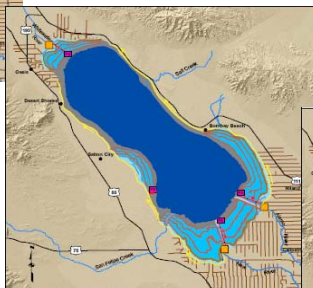
Phase I - 2020



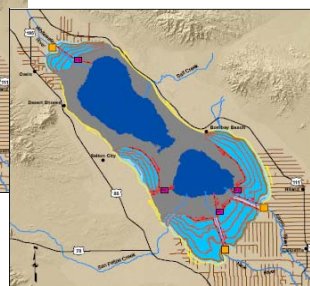
Brine Sink Salinity
= 78,000 mg/L

Alternative 2: Saline Habitat Complex II

Phase II - 2030



Phase IV - 2078



Construction = \$3.3 B
O&M = \$110/year in Phase IV

Alternative 3: Concentric Rings

- ◆ **Early Start Program with 2,000 acres of SHC along southern shoreline**
- ◆ **Pupfish connectivity in First Ring**
- ◆ **Control of inflows/outflows used to stabilize elevation and salinity**
- ◆ **Salinity**
 - First Ring: 20,000 to 30,000 mg/L
 - Second Ring: 30,000 to 40,000 mg/L
- ◆ **No Saline Habitat Complex**

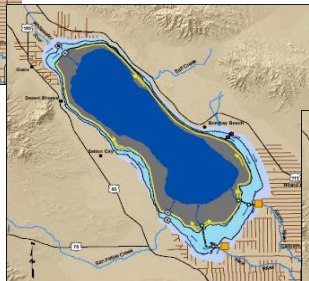
Phase I - 2020



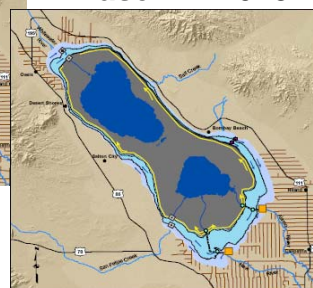
Brine Sink Salinity
= 88,000 mg/L

Alternative 3: Concentric Rings

Phase II - 2030



Phase IV - 2078



Construction = \$4.9 B

O&M = \$140 M/year in Phase IV

Alternative 4: Concentric Lakes

- ◆ **Early Start Program with 2,000 acres of SHC along southern shoreline**
- ◆ **Pupfish connectivity in First and Second Lakes**
- ◆ **Control of inflows/outflows used to stabilize elevation and salinity**
- ◆ **Salinity**
 - First Lake: 20,000 to 30,000 mg/L
 - Second and Third Lake: 30,000 to 40,000 mg/L
- ◆ **Habitat similar to Saline Habitat Complex**

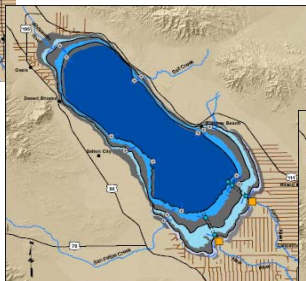
Phase I - 2020



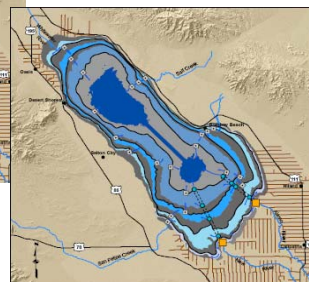
Brine Sink Salinity
= 76,000 mg/L

Alternative 4: Concentric Lakes

Phase II - 2030



Phase IV - 2078



Construction = \$1.1 B
O&M = \$10 M/year in Phase IV

Alternative 5: North Sea

- ◆ Early Start Program with 2,000 acres of SHC along southern shoreline
- ◆ Pupfish connectivity in Shoreline Waterway and Marine Sea
- ◆ Saline Habitat Complex along western, southern, and eastern shorelines

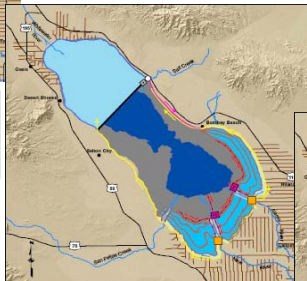
Phase I - 2020



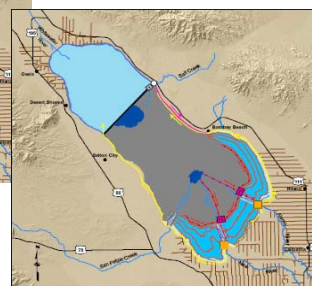
Brine Sink Salinity
= 77,000 mg/L

Alternative 5: North Sea

Phase II - 2030



Phase IV - 2078

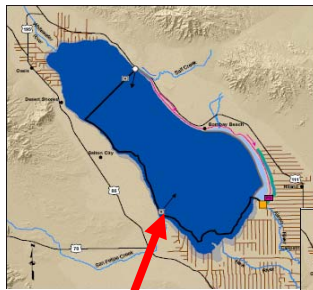


Construction = \$4.5 B
O&M = \$130 M/year in Phase IV

Alternative 6: North Sea Combined

- ◆ Early Start Program with 2,000 acres of SHC along southern shoreline
- ◆ Pupfish connectivity in Marine Sea, Marine Sea Mixing Zone, and agricultural fields
- ◆ Saline Habitat Complex along southern and eastern shorelines

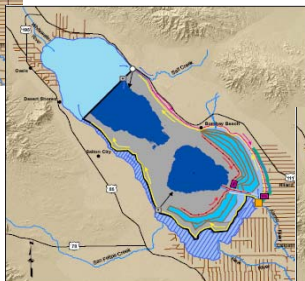
Phase I - 2020



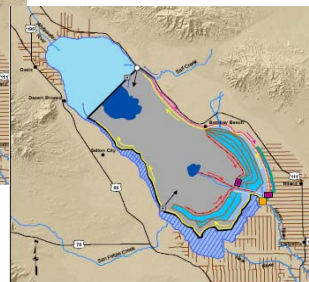
Brine Sink Salinity
= 77,000 mg/L

Alternative 6: North Sea Combined

Phase II - 2030



Phase IV - 2078



Construction = \$5.8 B

O&M = \$150 M/year in Phase IV

Alternative 7: Combined North and South Lakes

- ◆ **Early Start Program with 2,000 acres of SHC along southern shoreline**
- ◆ **Pupfish connectivity in Recreational Estuary Lake, Recreational Saltwater Lake, and Marine Sea Recirculation Canal**
- ◆ **Saline Habitat Complex along eastern shoreline**

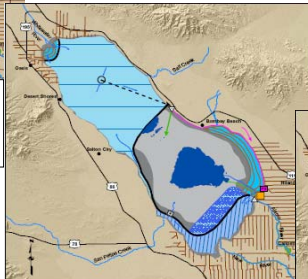
Phase I - 2020



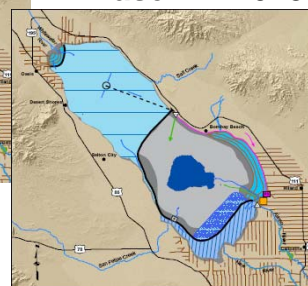
Brine Sink Salinity
= 76,000 mg/L

Alternative 7: Combined North and South Lakes

Phase II - 2030



Phase IV - 2078



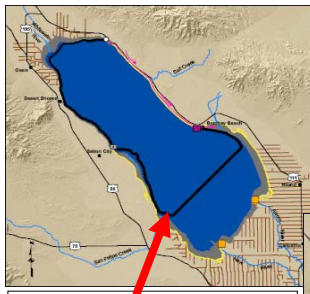
Construction = \$5.1 B

O&M = \$90 M/year in Phase IV

Alternative 8: South Sea Combined

- ◆ Early Start Program with 2,000 acres of SHC along southern shoreline
- ◆ Pupfish connectivity in Marine Sea
- ◆ Saline Habitat Complex near the western and eastern shorelines

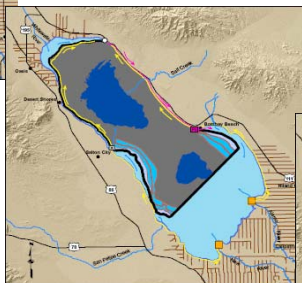
Phase I - 2020



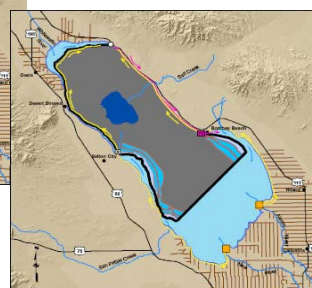
Brine Sink Salinity
= 77,000 mg/L

Alternative 8: South Sea Combined

Phase II - 2030



Phase IV - 2078



Construction = \$5.8 B
O&M = \$150 M/year in Phase IV